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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/598,458

08/31/2006

Bernhard Wessling

0183.08

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25871 7590 05/26/2010  
SWANSON & BRATSCHEUN, L.L.C.  
8210 SOUTHPARK TERRACE  
LITTLETON, CO 80120

EXAMINER

NGUYEN, HAIDUNG D

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

05/26/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

efspatents@sbiplaw.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/598,458	<b>Applicant(s)</b> WESSLING ET AL.	
	<b>Examiner</b> Haidung D. Nguyen	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 14-16 and 25-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 17-24 and 33-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/12/2009</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This action is responsive to applicant's amendment filed 2/8/2010.
2. Claims 1-38 are currently pending. Claims 14-16, 25-32, which are directed to non-elected invention, are withdrawn from consideration.
3. The previous rejections are withdrawn in view of applicant's amendment.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 103***

4. Claims 1-13, 17-20, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessling et al (5,498,761), hereinafter Wessling '761, in view of Wessling et al (4,929,388), hereinafter Wessling '388 and Wessling et al (5,567,355), hereinafter Wessling '355.

Regarding claims 1 and 7, Wessling '761 discloses a composition capable of forming a coating (col 11, ln 62), the composition comprising a mixture of a conductive polymer (polyaniline, col 11, ln 29-50), and a liquid dispersion medium (DMSO, col 11, ln 36; isopropyl alcohol, col 11, ln 56).

Wessling '761 does not disclose the average particle size (number average) of the conductive polymer is smaller than 500 nm and in is colloidal form. However, Wessling '355 disclose conductive polymer having an average diameter of less 500 nm (abstract, ln 4) and in colloidal form (present invention stated that polymer particles having a size of smaller than 500 nm are considered to be colloidal, page 4, para 0049). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention

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was made to have utilized the conductive polymer having an average diameter of less than 500 nm as taught by Wessling '355 because such conductive polymer are well suited for the manufacture of capacitors (col 14, ln 39-40).

Wessling '761 does not disclose the composition contain carbon black.

However, Wessling '388 which teaches coating composition contain carbon black to achieve high conductivity (col 3, ln 37-39) and lower the contact and volume resistance (col 1, ln 20-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed carbon black in the composition of Wessling '761 because Wessling '338 teaches that by incorporating carbon black into such compositions, high conductivity (col 3, ln 37-39) and lower the contact and volume resistance (col 1, ln 20-24) and be achieved.

Regarding claim 2, Wessling '761 discloses a composition according to claim 1, wherein the conductive polymer is selected from the group consisting of polymers of anilines, thiophenes, pyrroles and substituted derivatives thereof (polyaniline, col 11, ln 29-50).

Regarding claim 3, Wessling '761 discloses a composition according to claim 1, wherein two or more different conductive polymers are present (col 7, ln 4).

Regarding claims 4-6, Wessling '388 discloses the carbon black has a specific surface area of more than 100 m<sup>2</sup>/g (col 4, ln 38-39).

Regarding claims 8-10, Wessling '761 discloses a composition according to claim 1, wherein the conductivity of the conductive polymer is greater than 10<sup>-2</sup> S/cm (col 7, ln 15).

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Regarding claim 11, neither Wessling '761 nor Wessling '388 discloses a composition according to claim 1, wherein the weight ratio of the conductive polymer to carbon black is in the range of from 1:50 to 50:1. However it would be obvious to one of ordinary skill in the art at the time the invention was made to optimize the weight ratio of the conductive polymer to carbon black to achieve desired results by routine experimentation.

Regarding claim 12, Wessling '761 discloses a composition according to claim 1, comprising a liquid dispersion medium in a concentration of from 40 to 99.5 weight percent (col 11, ln 55-56), wherein the dispersion medium liquid is evaporable (isopropyl alcohol, col 11, ln 56). Wessling '761 does not disclose the composition, the conductive polymer and carbon components being present in a concentration of from 0.5 to 60 weight percent, all weight percentages being based on the total composition. However, it would be obvious to one of ordinary skill in the art at the time the invention was made to optimize the weight ratio of the conductive polymer to carbon black to achieve desired results by routine experimentation.

Regarding claim 13, Wessling et al discloses a composition according to claim 12, wherein the liquid dispersion medium comprises water and/or organic solvent(s) (isopropyl alcohol, col 11, ln 56).

Regarding claims 17 and 18, Wessling et al discloses a composite material comprising the composition according to 1 in the form of a coating on a substrate, wherein the substrate is selected from the group consisting of metals, semiconductors, plastics, ceramics and wood products (col 8, ln 23-44).

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Regarding claims 19, 20, 33, and 34, Wessling et al discloses an electrical or electronic article comprising the composition according to claim 1 or 17, wherein the article is selected from the group consisting of conductors, energy stores, sensors, switches, condensers, capacitors and super-capacitors, double layer capacitors and redox-capacitors (col 9, ln 1-25).

7. Claims 21-24 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (6,459,564) in view of Wessling '761, Wessling '388, and Wessling '355

Watanabe discloses a capacitor comprising an electrolyte (Fig 1, 106) and a pair of electrodes (Fig 1, 101 and 104) with a separator disposed there between (Fig 1, 108), a current collector (Fig 105). Watanabe does not disclose at least one of the electrodes comprises the composition according to claim 1. However, Wessling '761 in view of Wessling '388 disclose a composition according to claim 1 as described above. The composition is well suited for manufacturing electrodes and capacitors due to its high conductivity (col 9, ln 4 and 11). Therefore, it would be obvious to one of ordinary skilled in the art at the time the invention was made to employ the composition of Wessling '761 in view of Wessling '388 to manufacturing the capacitor of Watanabe, because such composition are well suited manufacturing electrodes and capacitors due to its high conductivity as taught by Wessling (col 9, ln 4 and 11).

***Response to Arguments***

8. Applicant's arguments, filed 2/8/2010, with respect to the rejection(s) under Wessling et al (5,567,355) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as detailed above.

***Examiner Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haidung D. Nguyen whose telephone number is (571)270-5455. The examiner can normally be reached on M-Th: 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Harold Y Pyon/  
Supervisory Patent Examiner, Art  
Unit 1796

/HN/

Haidung D Nguyen  
Examiner  
Art Unit 1796